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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/574,447

04/04/2006

Dieter Geller

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02/09/2009

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

ABEBE, DANIEL DEMELASH

ART UNIT

PAPER NUMBER

2626

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/574,447	Applicant(s) GELLER, DIETER	
	Examiner Daniel D. Abebe	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,8,9 and 11-16 is/are rejected.
- 7) ☒ Claim(s) 3,5-7, 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 12-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are rejected because, computer program products are not patentable under 35 U.S.C. 101 as they do not fall within one of the four categories of patent eligible subject matter, i.e., process, machine, composition of matter or manufacture.

Claim Objections

Claim 5 is objected to because of the following informalities: there appears to be a typographic error regarding the slope constant in the claim. Appropriate correction is required.

Claim 16 recites the limitation "computer product according to claim 1" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 8, 9 and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Acero et al. (5,604,839).

As to claim 1, Acero teaches a method (Fig.2) for improving speech recognition through normalization of feature vector components of an utterances under noisy environments, comprising the steps of:

calculating a noise (silence) probability of the feature vector component by means of a noise probability function characterizing a linearly decreasing noise interval (Col.4, lines 35-40; Col.5, lines 10-15; Fig.3A);

providing average noise feature vector and average speech feature vector for the reference (database training) feature vector components (Col.4, lines 15-16);

calculating a mean value for silence and speech intervals for the feature vector component representing the current utterance (Col.4, lines 16-17); and

transforming (normalizing) the feature vector component representing the utterance by means of a correction function, the correction function being based on the average noise and speech of the feature vectors, the average training (database) feature vectors and the calculated noise probability of the feature vector component (claim 5; Fig.3).

As to claim 2, Acero teaches where the probability of the feature vector being noise or speech is calculated and the feature vectors transformed based on the calculated probability (Col.4, lines 29-60; Col.7, lines 30-55; Col.5, lines 10-15).

As to claim 4, Acero teaches providing mean values for the training noise and speech feature vectors as shown above and the steps of weighting these values and where the number of feature vectors comprising the claimed amount will be inherent in Acero system.

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As to claim 8, Acero teaches a system for improving speech recognition through normalization of feature vector components of an utterances under noisy environments, the system comprising::

Means for calculating a noise (including silence) probability of the feature vector component by means of a consistently decreasing probability function;

Means for providing average noise feature vector and average speech feature vector for the reference (database training) feature vector components;

Means for calculating a mean value for silence and speech intervals for the feature vector component representing the current utterance; and

Means for transforming (normalizing) the feature vector component representing the utterance by means of a correction function, the correction function being based on the average noise and speech of the feature vectors, the average training (database) feature vectors representing training noise and speech and the calculated noise probability of the current utterance feature vector component (Figs.1-2; claims 20-21).

As to claim 9, Acero teaches a calculating means for calculating the probability of the feature vector being noise or speech and normalizing means for normalizing the the feature vectors based on the calculated probability (Fig.3).

As to claim 11, Acero teaches a database means for storing the reference/training feature vector representing the training speech and noise feature vectors (Fig.1; Abstract).

With regard to claims 12-13, the computer program product comprising instruction to perform the steps recited in the method claims is analogous thus the claims are rejected by Acero for the foregoing reasons.

Allowable Subject Matter

Claims 3, 5-7, 10 and 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As to claims 3, 10 and 14, Acero doesn't teach the function for calculating the average values is a moving weighted average function.

With regard to claim 5, Acero doesn't teach where the probability function comprises a slope constant.

As to claims 6-7 and 15-16, the claims are allowable over Acero because, the functions for calculating the noise probability and the normalization component are not taught by Acero as claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel D. Abebe whose telephone number is 571-272-7615. The examiner can normally be reached on monday-friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel D Abebe/
Primary Examiner, Art Unit 2626